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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,207	09/25/2003	Aswin Chandramouleeswaran	200312616-1	2153

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EXAMINER	
TRAN, VINCENT HUY	

ART UNIT	PAPER NUMBER
2115	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/669,207	CHANDRAMOULEESWARAN ET AL.	
	Examiner	Art Unit	
	Vincent T. Tran	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the amendment filed on 04/19/2006.

2. Claims 1- 22 are pending for examination.

3. The text of those sections of Title 35, U.S. code not included in this action can be found in the prior Office action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-7, 16, 17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to the defining of a data structure. Data structures that are not claimed as embodied in computer readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer.

5. Claims 16, 19 are rejected under 35 U.S.C. 101 because the claimed invention appears to be to an abstract idea rather than a practical application of the idea. The claims do not result in a physical transformation nor does it appear to provide a useful, concrete and tangible result. Secondly, the method of claim 16 could be practice on a piece of paper.

6. Claims 19-20 are rejected under 35 U.S.C. 101 because claims 19-20 are directed to the claiming of a carrier wave. A carrier wave is a form of energy, like a signal; therefore is considered to be non-statutory.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim "the save option being a hold until next boot option" is unclear.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 2, 8, 16, 19 are rejected under 35 U.S.C. 112. If the trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the use of a trademark or trade name would not only render a claim indefinite, but would also constitute an improper user of the trademark or trade name.

Ex parte Simpson, 218 USPQ 1020 (Bd. APP. 1982).

11. Claim 21 recites the limitation "does not control any kernel resource directly" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

13. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Nemeth et al. "Linux Administration Handbook" Prentice Hall PTR, Sep. 26, 2002, Chapter 12 ("Nemeth").

14. As per claim 1, Nemeth discloses a user-defined tunable[1], comprising:

a tunable name [inherent];

a assigned value [inherent];

Although, Nemeth does not teach that the newly created kernel module (user defined tunable) included an expressions that related one or more kernel tunables to the user defined tunable, each of the kernel tunables being created by a developer and the user defined tunable being created by a system administrator, each of the kernel tunables having a parameter value defined by an expression, wherein a change to the assigned value of the user-defined tunable changes the parameter value of each of the kernel tunables. However, this feature is deemed to be inherent to the Nemeth system since it is well know in the art that each tunable kernel much have at least one tunable parameter which can be express in term of one or more kernel tunables [page 220 section 12.2]. Therefore, the system would have been terribly inefficient if the user-

[1] page 219-220 – "Linux environment...makes it easy.. to roll your own device drives and kernel modules from scratch"
page 232 – Run make modules.

defined tunable does not have the same tunable parameter as of the kernel tunable that was created by the developer.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

17. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 1-6, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiamingo in view of Nemeth.

19. As per claim 1, Fiamingo teaches a user-defined tunable [page 1 of chapter 8.2.5], comprising:

a tunable name [p. 7 table 2 – Kernel variable];

an assigned value [table 2 – Variable value];

an expressions that related one or more kernel tunables to the user defined tunable [table 2 col. 3 row 3 – max_nprocs[2] + 16 + maxusers + 64], each of the kernel tunables having a parameter value defined by an expression, wherein a change to the assigned value of the user-defined tunable changes the parameter value of each of the kernel tunables.[inherent].

Fiamingo does not teach each of the user-defined tunable being created by a system administrator. Specifically, Fiamingo only describes the methods for tuning the kernel tunable parameters that are defined by an operating system developer. However, as disclose by Nemeth in page 219 chapter 12 of the "Linux Administration Handbook", the system administrator also has the ability to define it own drivers and kernel module.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the system of Fiamingo with the user-defined tunable being created by a system administrator since it would be difficult to effectively administer a system without being able to mold the system to a specific environment as taught by Nemeth [page 220].

20. As per claim 2, Fiamingo disclose the user defined tunable is applied to a UNIX operating system [p. 1].

21. As per claim 3, Fiamingo disclose the expression relating the user defined tunable to the one or more kernel tunables is of the form of an arithmetic expression involving integers and other tunable names [table 2 p. 7; line 1 of p. 7 set module:variable = value].

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[2] max_nproc a related kernel tunables.

22. As per claim 4, Fiamingo disclose the arithmetic expression [table 2 p. 7].

23. As per claim 5, Fiamingo disclose the user defined tunable is changed using kernel configuration tools [inherent p. 1 – select kernel parameter values by using the /usr/sbin/sysdef command].

24. As per claim 6, Fiamingo disclose the assigned value and the expression use C programming syntax [table 2 p. 7 – 10+16*maxusers] , and where in the assigned value may in one of decimal, octal, or hexadecimal format [10 and 16 are decimal format].

25. As per claim 21, the system of Fiamingo modified by Nemeth teach an expressions that relate one or more kernel tunables to the user-defined tunables. Therefore, inherently, the combine teachings teach the user defined tunable does not control any kernel resource directly.

26. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fiamingo/Nemeth as applied to claim 1 above, and further in view of Shearer, Jr. et al. U.S. 6,272,519.

27. As per claim 7, Fiamingo/Nemeth does not teach expressly that the user defined tunable may be deleted.

Shearer, Jr. et al. teach another method for enabling the altering or replacing of the kernel tuning parameters. Specifically, Shearer, Jr. et al. teach the user defined tunable may be deleted [col. 9 lines 20-25]. Therefore, it would have been obvious to one of ordinary skill in the art to

have modified the system of Fiamingo with the delete command of Shearer, Jr. et al. since the delete command is well know in the art of software.

28. Claims 8-10, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Compaq "Writing Kernel Module" True UNIX Version 5.1 or higher, August 2000 ("Compaq") in view of Nemeth.

29. As per claim 8, As per claim 8, Roth teaches an apparatus that provides user-defined tunable for used in UNIX operating system, comprising:

a system interface [Chapter "About This Manual", section Programming Tools Documentation", chapter 10.1], comprising:

a user-defined tunable creation option [chapter 1.2, 1.2.3, chap. 10.1 – 7. build kernel module], and

a system administrator controlled value assignment option [Chap. 1.2.1.2, 3];

a tunable repository that stores the user-defined tunables [Chap. 3.3, 10.1.1-10.1.7]; kernel configuration tools that read the user defined tunables from the tunable repository and relate the user defined tunables to a kernel tunable in the UNIX operating system [inherent, Fig. 3-1], wherein the kernel tunable is created by a developer.

Although not explicitly taught in Compaq that the user defined tunables are created by a system administrator. Compaq however does not explicitly prohibit the system administrator from creating a user-defined tunable only that the method is intended for systems engineers who have a strong background in operating systems based on the UNIX [About this Manual – Audience].

Nemeth teaches another system that directed to the configuration of the kernel module. Specifically, Nemeth teaches it is relatively easy for a system administrator to create it own device drives and kernel modules. At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have modified the system of Roth with the user defined tunables being created by a system administrator in order to provide the system administrator the ability to mold his or her system to a specific environment as taught by Nemeth [page. 219-220].

30. As per claim 9, Compaq teaches the tunable kernel comprises one or more kernel tunables, and wherein the system administrator interface further comprises means to change values assigned to kernel tunables [chapter 3.1].

31. As per claim 10, Compaq teaches option that allows a system administrator to modify an integer value assigned to a kernel tunable [Chapter 10.5].

32. As per claim 13, Compaq teaches the means for listing one or more kernel tunables and user-defined tunables [inherent].

33. As per claim 14, Ryan teaches the means for listing comprises a verbose option, wherein a complete description of the kernel tunables is presented [inherent].

34. As per claim 15, well know in the art of kernel tunables.

35. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Compaq/Nemeth applied to claim 8 above, and further in view of Fiamingo.

36. As per claim 11, Fiamingo teaches the kernel tunable is related to a user defined tunable by an expression, and wherein the means for changing values assigned to kernel modules comprises an option wherein a system administrator change the expression relating the kernel tunable and the user-defined tunable [table 2 p. 7].

37. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Compaq/Fiamingo/Nemeth as applied to claim 1 above, and further in view of Shearer, Jr. et al. U.S. 6,272,519.

38. As per claim 7, Compaq/Fiamingo/Nemeth does not teach expressly that the user defined tunable may be deleted.

Shearer, Jr. et al. teach another method for enabling the altering or replacing of the kernel tuning parameters. Specifically, Shearer, Jr. et al. teach the user defined tunable may be deleted [col. 9 lines 20-25]. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the system of Compaq/Fiamingo/Nemeth with the delete command of Shearer, Jr. et al. since the delete command is well know in the art of software.

39. Claims 16-20, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemeth in view of Fiamingo.

40. As per claim 16, Nemeth teaches a method for implementing user defined tunables in a operating system, comprising:

enabling a system administrator to create a user define tunable [page 219 – last paragraph].

However, Nemeth does not explicitly teach the structure of the user define tunable.

Fiamingo teaches another method related to the configuration of a kernel module. Specifically, Fiamingo using an expression, relating the defined tunable to one or more existing kernel tunables [table 2 col. 3 row 3 – max_nprocs + 16 + maxusers + 64] wherein each of the existing tunables are created by a developer.

At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have modified the system of Nemeth with the kernel tunables of Fiamingo since the structure of the kernel tunables is well know in the art.

41. As per claim 17, Fiamingo teaches modifying a value of the tunable, wherein values of the one or ore related kernel tunables are changed [p. 7]. Therefore, it is obvious to one of ordinary skill in the art that the system of Shearer, Jr. et al. modified by Fiamingo teaches the modification of the value in the user defined tunable.

42. As per claim 18, Fiamingo teaches the modifying of the expression relating the user-defined tunable and the one or more kernel tunables, wherein modifying the expression changes values of the one or more kernel tunables [p. 7 of Fiamingo - inherent].

43. As per claim 19-20, the combine teachings of Nemeth and Fiamingo teach the method for implementing user-defined tunable. Therefore, Shearer, Jr. et al. and Fiamingo teach the computer readable medium having code to implement the user-defined tunable to perform the claimed method.

44. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nemeth and Fiamingo as applied to claim 16 above, and further in view of Roth et al. US 20020023211 ("Roth").

45. As per claim 22, the system of Nemeth modified by Fiamingo is inherently included the enabling of the system administrator to select a flag to initiate creation of the user defined tunable. However, Nemeth/Fiamingo does not teach the select of a save option, the save option being a hold unit next boot option.

Roth teaches another method for configuring a kernel module. Specifically, Roth teach a save option being hold until next boot option [paragraph 0138].

At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have modified the system of Nemeth/Fiamingo with the save of option of Roth in order to protect the integrity of the system.

Conclusion

Examiner's note:

Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are

representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Prior Art not relied upon:

Please refer to the references listed in attached PTO-892, which, are not relied upon for claim rejection since these references are relevant to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent T. Tran whose telephone number is (571) 272-7210. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas c. Lee can be reached on (57 1)272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vincent Tran.

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PRIMARY EXAMINER